IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Karl R. Kennedy et. Al

Serial No.: 10/717,078

Filed: Novemeber 19, 2003

For: AN INSTRUMENT PANEL HAVING CONCEALED SWITCHES

Attorney Docket No.: LEAR 03781 PUS

Group Art Unit: 3616

Examiner: Jacob Y. Choi

AMENDED APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal Brief from the final rejection of claims 1-18 and 20-21 of the Office Action mailed on April 11, 2006 for the above-identified patent application.

I. REAL PARTY IN INTEREST

The real party in interest is Lear Corporation ("Assignee"), a corporation organized and existing under the laws of the state of Michigan, and having a place of business at 21557 Telegraph Road, Southfield, MI, as set forth in the assignment recorded in the U.S. Patent and Trademark Office on November 19, 2003 at Reel 014729 and Frame 0125.

II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to the Appellant, the Appellant's legal representative, or the Assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-18 and 20-21 are rejected and are the subject of this appeal. Claims 1-3, 10-18, and 20-21 are rejected. Claims 4-9 are objected. Claim 19 is cancelled.

A pre-Appeal Brief Request for Review was filed with the Notice of Appeal. The Notice of Panel Decision from Pre-Appeal Brief review withdrew the rejections with respect to USPN 6,247,825 to Borkowski.

IV. STATUS OF AMENDMENTS

No after final amendments were attempted.

V. SUMMARY OF CLAIMED SUBJECT MATTER

FIG. 1 illustrates an instrument panel system 10. The instrument panel system includes an instrument panel 14, a number of switches 16, a control module 20, a radio and compact disc player unit 22, an air control unit 26 and an array 28 of switches 16. (Page 4, lines 15-18).

Each switch 16 includes a display 18. The switches 16 and displays 18 are shown in phantom to illustrate each is concealed from view unless illuminated. (Page 4, lines 19-20).

FIGS. 2-4 illustrate the operation of the switches 16. In particular, the figures provided an example how the control module 20 can control the use of the same switch 16 to provide a radio icon and a CD player icon for use with separate controls of the radio and CD unit 22. (Page 5, lines 4-7).

In detail, FIG. 2 illustrates the display 18 as it appears to the passenger area when unilluminated. As shown, the switch 16 and the icon are concealed from view. FIG. 3 illustrates the display 18 if a radio icon is illuminated to select a radio station associated with number "1" button. FIG. 4 illustrates the illumination source if a CD icon is illuminated to select playing of a CD. (Page 5, lines 8-13).

In this manner, various displays 18 are provided by the switches 16 around the radio and CD unit 22, similarly switches 16 can be provided around the air control unit 26. The displays 18 correspond with the available functions of the respective units 22, 26. Similarly, the array 26 of switches 16 can include any number of displays 18. (Page 5, lines 14-18).

As shown in FIG. 1, a number of the field effect switches can comprises a control panel 40. The control panel 40 can then be attached to instrument panel and provided to be in communication with the radio and compact disc player unit 22. (Page 5, lines 21-23).

The display 18 is needed to reveal the concealed switch 30 so that the user can locate and actuate the switch 30. Unless the switch 30 is illuminated, it is otherwise concealed from the user such that the switch 30 is viewed when the display is illuminated and concealed when the display is unilluminated. (Page 6, lines 8-11).

The control module 20 controls which icon 54, 56 and which switch 18 is illuminated. In this manner, the control module 20 can vary the display 18 and the function indicated by the display 18, as shown in FIGS. 2-4. (Page 7, lines 1-3).

Optionally, the field effect switch 30 can include a tone generator 70 and a tactile feel generator 74. One or both of these devices can be used as an actuation notification. The actuation notification is helpful to confirm that the switch was actuated. (Page 7, lines 9-12).

The tone generator 70 is used to signal actuation of the switch 18 with an audible signal. The tactile feel generator 74 is used to signal actuation of the switch with a vibration or other signal which the user can feel. (Page 7, lines 13-15).

A standoff 78 and a solenoid control circuit 80 can be included to facilitate operation of the tactile feel generator 74. The solenoid control circuit 80 controls the intensity and duration of the tactile feel signal and the standoff 78 is used to support the tactile feel generator away from the support layer. (Page 7, lines 16-19).

FIG. 7 illustrates an instrument panel system 150. Like the instrument panel system 10 shown in FIG. 1, the instrument panel system includes an instrument panel 152, a

control panel 154 having one or more concealed switches 156, a display 158 for each switch 156 a control module 160, a radio and CD player unit 162, an air control unit 164, and an array 168 of switches 156. In addition, the instrument panel system includes a projector 172 as an illumination source positioned in front of the instrument panel. (Page 9, lines 15-21).

The projector 172 is used for projecting light onto a surface of the instrument panel 152 to selectively illuminate the plurality of switches 156 by providing the displays 158. The switches can comprise either one or both of the field effect switch 30 and the membrane switch 90. The user actuates the switches 156 as described above. (Page 9, lines 22-26).

The projector 172 can project virtually any type of display onto the switches 156. It can produce display images similar to those provided by the icons or others. In addition, the size of the display 158 can be increased to cover multiple switches by simply adjusting the size of the projected display. This allows the control module 160 to adjust the size of the switch 156 perceived by the user without requiring hardware changes. For example, multiple switches in the array 168 can receive portions of the same display 158 to increase the size of the display from the user perspective. (Page 10, lines 6-13).

Claims 1 and 17 are the only pending independent claims. Each claim is limited to instrument panel systems having a control module (20, 160), control panel (40, 154), and illumination source (42, 44). The control panel includes buttons, switches, icons or other features (18, 172) for interfacing passenger requests with the control module. (Page 4, Lines 15-20; Page 9, Lines 15-21, Figures 1 and 7)

The control module selectively illuminates the switches, icons or other control panel features as a function of a vehicle system to be controlled with the actuation of the same. The control module may vary the illumination of the switches such that the selective illumination determines the vehicle system to be controlled. (Page 7, Lines 1-9; Page 10, Lines 21-27)

In this manner, the present invention provides a system for electronically controlling different vehicle systems as a function of variable switch illumination. The same switches are illuminated differently to control different vehicles systems such that the user may press the same switch at different times to control different vehicle systems.

Dependent claims 15 and 21 further include multiple icons associated with each switch. Each icon on the same switch is separately illuminated to indicate the different vehicle systems controlled with actuation of the same. (Page 6, Lines 16-21; Pages 8-9, Lines 26-4, Figures 2-4 and 8)

Dependent claim 18 relates to the switch having an audible actuation notification to provide the occupant with an indication of actuation of the switch. (Page 7, Lines 13-16)

Dependent claim 20 relates to the illumination source being a projector (172) for projecting light onto the plurality of switches (Figure 7, Page 9, Lines 18-22).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-3, 10-17, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,987,793 to Ebine in view of U.S. Patent Application No. 2002/0080043 to Damiani; and

2. Claims 18 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Ebine patent, the Damiani application, and further in view of U.S. Patent No. 6,121,959 to Fukumoto.

VII. ARGUMENT

A. Claims 1-3, 10-17, and 21 Are Patentable Under 35 U.S.C. § 103(a) Over The Ebine Patent and Damiani Application

Independent claims 1 and 17 include limitations to an instrument panel system having an instrument panel with a number of switches. The system further includes a control module for controlling an illumination source to selectively illuminate the switches. Depending on the switch illumination, different vehicle systems are controlled with actuation of the switches. The control module facilitates controlling different vehicle systems as a function of variable switch illumination.

The Examiner submits the combined teachings of the Ebine patent and Damiani application disclose each of these limitations. The Appellants submit the Ebine patent is non-analogous art, it is improper to combine the cited references, and the improper combination of the same still fails to teach each claim limitation.

Non-analogous Art

With respect to analogous art, MPEP § 2141.01(a) state the following:

> The examiner must determine what is "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be **in the field of applicant"s endeavor or**, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). (emphasis added)

The Ebine patent relates to video cameras and limiting user confusion by hiding buttons used to control video operations when such buttons are not desired for use. The Ebine patent provides strips of buttons that may be hidden with manual actuation of a switch. All of the buttons are in strip are tied to common operations such that the entire strip is hidden.

The Appellants application relates to controlling different vehicle systems with the same switches. The switches are illuminated differently as a function of the vehicle system to be controlled. Unlike the Ebine patent, the Appellants invention has nothing to do with controlling video cameras. One endeavoring to solve problems with respect to controlling different vehicle systems would not logically avail themselves of the teachings associated with video cameras.

Furthermore, unlike the Ebine patent, the Appellants application has nothing to do with endeavoring to solve user confusion. The Ebine patent limits user confusion by providing different sets of buttons for different video camera operations and hiding the buttons from view. The Appellants invention increases user confusion, if anything, by illuminating the same buttons to control different vehicle systems. One endeavoring to provide greater user confusion by using the same switches to control different vehicle operations would not avail themselves of a reference that limits user confusion by using different buttons for different video camera operations and that hides the different buttons when not in use so as to limit user confusion.

The Appellants submit the Ebine patent is non-analogous art. One endeavoring to solve the problems associated with the Appellants invention would not logically avail themselves of the teachings of the Ebine patent. As such, the Appellants submit the Ebine patent is unsuitable for rejection the presently pending claims.

Improper Combination

Notwithstanding the non-analogous nature of the Ebine patent, the Appellants submit there is not motivation in the references or one of ordinary skill in the art to combine the teachings of the Ebine patent with the teachings of the Damiani application. As noted in MPEP § 2143.01, the proposed reference combination cannot render the references unsatisfactory for its intended purpose or change its principle of operation. This sections states the following:

> If proposed modification would render the prior art invention being modified **unsatisfactory for its intended purpose**, then there is **no suggestion** or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)
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> * * *
>
> If the proposed modification or combination of the prior art would **change the principle of operation** of the prior art invention being modified, then the teachings of the references are **not sufficient** to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (emphasis added)

The Ebine patent includes multiple strips of buttons that can be hidden from view by turning off an illumination source associated therewith. The Ebine patent is necessarily limited to associating a single operation with each of the buttons as it would be impossible to limit user confusion and to hide the buttons if the buttons in each strip could be used for different operations.

In contrast, the Damiani application is directed to a user interface having a display offset relative to a number of fixed buttons configured to control options provided in the display. A user may actuate the fixed buttons in order to control the information displayed in the display such that the same buttons may be used to control different vehicle systems.

There is not motivation to combine the teachings of the Ebine patent with the teachings of the Damiani application because it would change the intended operation of the references and render them unsuitable for their intended purpose.

The combination of the Ebine patent with the Damiani application would require the Damiani application to associate the buttons with only one operation, and thereby, prevent its intended operation of using the same buttons to accommodate multiple functions. Moreover, the combination of the Ebine patent with the Damiani application would require the Damiani application to vary illumination of the buttons instead of the display, and thereby, prevent its intended operation of using a variable display.

The Appellants submit there is not motivation to combine the cited references. The proposed combination renders the cited references unsuitable for their intended purpose and changes their principle operation. As such, the Appellants submit the proposed combination is unsuitable for rejecting the presently pending claims.

Each Limitation Not Taught

Notwithstanding the impropriety of combining the cited references, the cited references still fail to teach each limitation of the claims 1 and 17. As noted in MPEP § 2143.03, each claim limitation must be taught in the cited references. This section states the following:

> To establish prima facie obviousness of a claimed invention, **all** the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). (emphasis added)

The cited reference fail to teach all the limitations of claims 1 and 17. In particular, the references fail to teach a control module that selectively illuminates switches and controls different vehicle systems as a function of switch illumination. The control module of the present invention can illuminate the same switch differently to control different vehicle systems. The cited references provide no such capability.

The Ebine patent includes strips of buttons having fixed operations associated therewith. The functions controlled by the switches cannot vary. The only variance in the Ebine patent relates to a user manually controlling whether the buttons are visible or hidden. In fact, the Ebine patent fails to even disclose whether the buttons can be activated or deactivated, i.e, the Ebine patent fails to disclose whether the buttons are operational when hidden.

The Ebine patent fails to disclose a control module to hide and unhide the buttons. It requires a user to manually actuate a switch to hide and unhide the buttons. Moreover, the Ebine patent fails to control different camera operations with the same switches. It only associates a single operation with each switch. As such, it cannot teach or suggest a control module to selectively illuminate the switches or a control module that controls different vehicle operations as function of switch illumination.

The Damiani application fails to make up for the deficiencies of the Ebine patent. The Damiani application includes a control module to vary information shown in a display. Fixed buttons are offset from the display for user directed control of the displayed information and to coordinate execution of operations associated therewith.

The Damiani application fails to disclose a control module to selectively illuminate the buttons. In fact, the Damiani application does not even illuminate the buttons, let alone selectively illuminating them in accordance with the present invention. As such, it cannot

teach or suggest a control module to selectively illuminate the buttons or a control module that controls different vehicle operations as function of switch illumination.

The Appellants submit the cited references fail to teach each limitation of the claims 1 and 17. As such, the Appellants submit the proposed combination is unsuitable for rejecting claims 1 and 17 and the claims that depend therefrom.

1. Claims 15 and 21 Are Separately Patentable Under 35 U.S.C. § 103(a) Over The Ebine Patent and Damiani Application

Dependent claims 15 and 21 depend from patentable independent claims 1 and 17 and are patentable at least for the same reasons that those claims are patentable. Moreover, dependent claims 15 and 21 are separately patentable. The cited references fails to teach or suggest using multiple icons for one or more of the switches. The multiple icons on the same switch are separately illuminated to indicate the different vehicle systems controlled with actuation of the same. In this manner, the same switch is associated with two different vehicles systems and used to control the same as a function of switch illumination.

As noted above, neither of the Ebine patent or Damiani application teach or suggest buttons having multiple icons, let alone selectively illuminating the individual icons. The references also fail to provide any motivation for doing the same. The Ebine patent fails to suggest varying the operations associated with the buttons and the Damiani application fails to suggest illuminating the buttons.

The Appellants submit claims 15 and 21 are separately patentable as the cited reference fail to teach or suggest the limitation included therein.

A. Claims 18 and 20 Are Patentable Under 35 U.S.C. § 103(a) Over The Ebine Patent and Damiani Application and Fukumoto patent

Claims 18 and 20 depend from patentable independent claim 17 and are patentable at least for the same reasons that claim 17 is patent.

C. Conclusion

In view of the foregoing and in light of the Notice of Panel Decision from Pre-Appeal Brief Review, which withdrew the rejections in light of the Borkowski patent, the Appellants submit each rejection has been fully replied to and traversed. The Board is respectfully request to pass the case to issue.

The fee of $500 as applicable under the provisions of 37 C.F.R. § 41.20(b)(2) is enclosed. Please charge any additional fee or credit any overpayment in connection with this filing to our Deposit Account No. 02-3978.

Respectfully submitted,

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Enclosure - Appendices

VIII. CLAIMS APPENDIX

1. In a vehicle having a passenger compartment, an instrument panel system comprising:

an instrument panel;

a control panel attachable to the instrument panel, the control panel comprising a plurality of switches for use by an occupant in the passenger compartment to control at least one vehicle system;

an illumination source for selectively illuminating at least one of the plurality of switches, wherein each of the plurality of switches is visible to the occupant only when illuminated by the illumination source; and

a control module in communication with the control panel and the illumination source, the control module for selectively interfacing the control panel with the at least one vehicle systems to be controlled, and for controlling the illumination source to selectively illuminate at least one of the plurality of switches based on the at least one of the plurality of vehicle systems to be controlled.

2. The instrument panel system of claim 1 wherein the illumination source comprises a projector for projecting light onto the plurality of switches.

3. The instrument panel system of claim 2 wherein the projector is to be located in the passenger compartment.

4. The instrument panel system of claim 3 wherein the projector projects images onto surfaces associated with the plurality of switches, the associated surfaces visible to the occupant.

5. The instrument panel system of claim 4 wherein the projector further projects an additional image onto a surface of the instrument panel visible to the occupant, the surface of the instrument panel and the projected additional image acting as a display for conveying information to the occupant.

6. The instrument panel system of claim 4 wherein the projector further projects an additional image onto a surface of the control panel visible to the occupant, the surface of the control panel and the projected additional image acting as a display for conveying information to the occupant.

7. The instrument panel system of claim 2 wherein each of the plurality of switches is substantially transparent and the projector projects images onto the plurality of switches, the images visible to the occupant.

8. The instrument panel system of claim 7 wherein the projector further projects an additional image onto a substantially transparent surface of the instrument panel, the substantially transparent surface of the instrument panel and the projected additional image acting as a display for conveying information to the occupant.

9. The instrument panel system of claim 7 wherein the projector further projects an additional image onto a substantially transparent surface of the control panel, the substantially transparent surface of the control panel and the projected additional image acting as a display for conveying information to the occupant.

10. The instrument panel system of claim 1 wherein the illumination source is a plurality of light emitting diodes in proximity to the plurality of switches.

11. The instrument panel system of claim 1 wherein each of the plurality of switches comprises a touch activated field effect switch.

12. The instrument panel system of claim 1 wherein each of the plurality of switches comprises a membrane switch.

13. The instrument panel system of claim 1 further comprising a control module to be provided in communication with the control panel and the illumination source, the control module for selectively interfacing the control panel with the at least one vehicle system to be controlled, and for controlling the illumination source to selectively illuminate at least one of the plurality of switches based on the at least one vehicle system to be controlled.

14. The instrument panel system of claim 1 wherein each of the plurality of switches comprises at least one icon for illumination by the illumination source.

15. The instrument panel system of claim 14 wherein the at least one icon comprises a plurality of icons, each of the plurality of icons associated with one of a plurality of vehicle systems.

16. The instrument panel system of claim 15 wherein each of the plurality of switches comprises at least one icon for illumination by the illumination source, and wherein the control module selectively illuminates the at least one icon based on the at least one vehicle system to be controlled.

17. In a vehicle having a passenger compartment, an instrument panel system comprising:

an instrument panel;

a control panel attachable to the instrument panel, the control panel comprising a plurality of switches for use by an occupant in the passenger compartment to control a plurality of vehicle system, each of the plurality of switches having a plurality of icons associated therewith, each icon associated with one of the plurality of vehicle systems;

an illumination source for selectively illuminating the plurality of icons, wherein each of the plurality of switches is visible to the occupant only when an associated icon is illuminated by the illumination source; and

a control module in communication with the control panel and the illumination source, the control module for selectively interfacing the control panel with at least one of the plurality of vehicle systems to be controlled, and for controlling the illumination source to selectively illuminate at least one of the plurality of icons based on the at least one of the plurality of vehicle systems to be controlled.

18. The instrument panel of claim 17 wherein each of the plurality of switches includes an audible actuation notification to provide the occupant with an indication of actuation of the switch.

19. Cancelled

20. The instrument panel system of claim 17 wherein the illumination source is a projector for projecting light onto the plurality of switches.

21. The instrument panel system of claim 17 wherein at least two icons are associated with each switch and the control module controls which of the at least two icons is illuminated and the vehicle system controlled as function thereof.

IX. EVIDENCE APPENDIX

"None"

X. RELATED PROCEEDINGS APPENDIX

"None"